Technics

STEREO INTEGRATED AMPLIFIER

SU-X950

STEREO DOUBLE CASSETTE DECK

RS-X950

OPERATING INSTRUCTIONS

Before operating this unit, please read these instructions completely.

ENGLISH

Dear Stereo Fan

We want to thank you for selecting this product and to welcome you to the growing family of satisfied Technics product owners around the world.
We feel certain you will get maximum enjoyment from this new addition to your home.
Please read these operating instructions carefully, and be sure to keep them handy for convenient reference.

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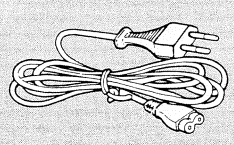
Marking sign is located on bottom of the unit. (only for amplifier)

Accessories (Refer to pages 4 and 5.)

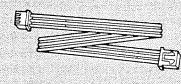
STEREO INTEGRATED AMPLIFIER

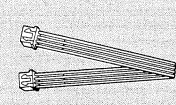
- •AC power supply cord 1

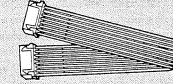


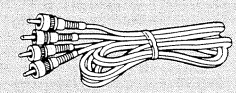
STEREO DOUBLE CASSETTE DECK

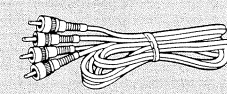
- •3-core flat cable 1
- •4-core flat cable 1
- •8-core flat cable 1
- •Stereo connection cables 2











Note:
The configuration of AC power supply cord differs according to area.

Suggestions for Safety

■ Use a standard electrical AC wall outlet

1. **Use from an AC power source of high voltage, such as for air conditioners, is very dangerous.**
   Be extremely careful not to make a connection to the electrical outlet for a large air conditioner or central-heating unit which uses high voltage, because there is the possibility of fire.
2. **A DC power source cannot be used.**
   Be sure to check the power source carefully, especially on a ship or other place where DC is used.

■ Connection and removal of the power cord plug

1. **Wet hands are dangerous.**
   A dangerous electric shock may result if the plug is touched by wet hands.
2. **Don't pull the power cord.**
   Always grasp the plug; never pull the cord itself.

■ AC outlet on rear panel (not equipped for some countries)

1. **Any equipment connected here should have specified power consumption or less.**
   This outlet is exclusively for the connection of other audio equipment, such as a tape deck. Be sure the power consumption does not exceed the wattage specified near the AC outlet.
2. **Never connect other electrical appliances, such as an iron or toaster.**
   If appliances with a large power consumption are connected, an unexpected accident might occur as a result of overheating.

■ Never attempt to repair or reconstruct this unit

A serious electric shock might occur if this unit is repaired, disassembled or reconstructed by unauthorized persons, or if the internal parts are accidently touched.

■ For families with children

Never permit children to put anything, especially metal, inside this unit. A serious electric shock or malfunction could occur if articles such as coins, needles, screwdrivers, etc. are inserted through the ventilation holes, etc. of this unit.

■ Turn off after use

If the unit is left for a long time with the power on, this will not only shorten its useful operation life, but may also cause other unexpected trouble.

■ If water is spilled on the unit

Be extremely careful if water is spilled on the unit, because a fire or serious electric shock might occur. Immediately disconnect the power cord plug, and consult with your dealer.

■ Place the unit where it will be well ventilated, and away from direct sunlight

Place this unit at least 10 cm (4") away from wall surfaces, etc., and away from direct sunlight. Be careful that curtains and similar materials do not obstruct the ventilation holes.

■ Keep the unit away from heaters, etc.

Heat can damage the external surfaces as well as internal circuits and components.

■ Avoid spray-type insecticides

Insecticides might cause cracks or "cloudiness" in the cabinet and plastic parts of this unit. The gas used in such sprays might, moreover, be ignited suddenly.

■ Never use alcohol or paint thinner

These and similar chemicals should never be used, because they may damage the finish.

■ If trouble occurs

If, during operation, the sound is interrupted or indicators no longer illuminate, or if abnormal odor or smoke is detected, immediately disconnect the power cord plug, and contact your dealer or an Authorized Service Center.

Before Use

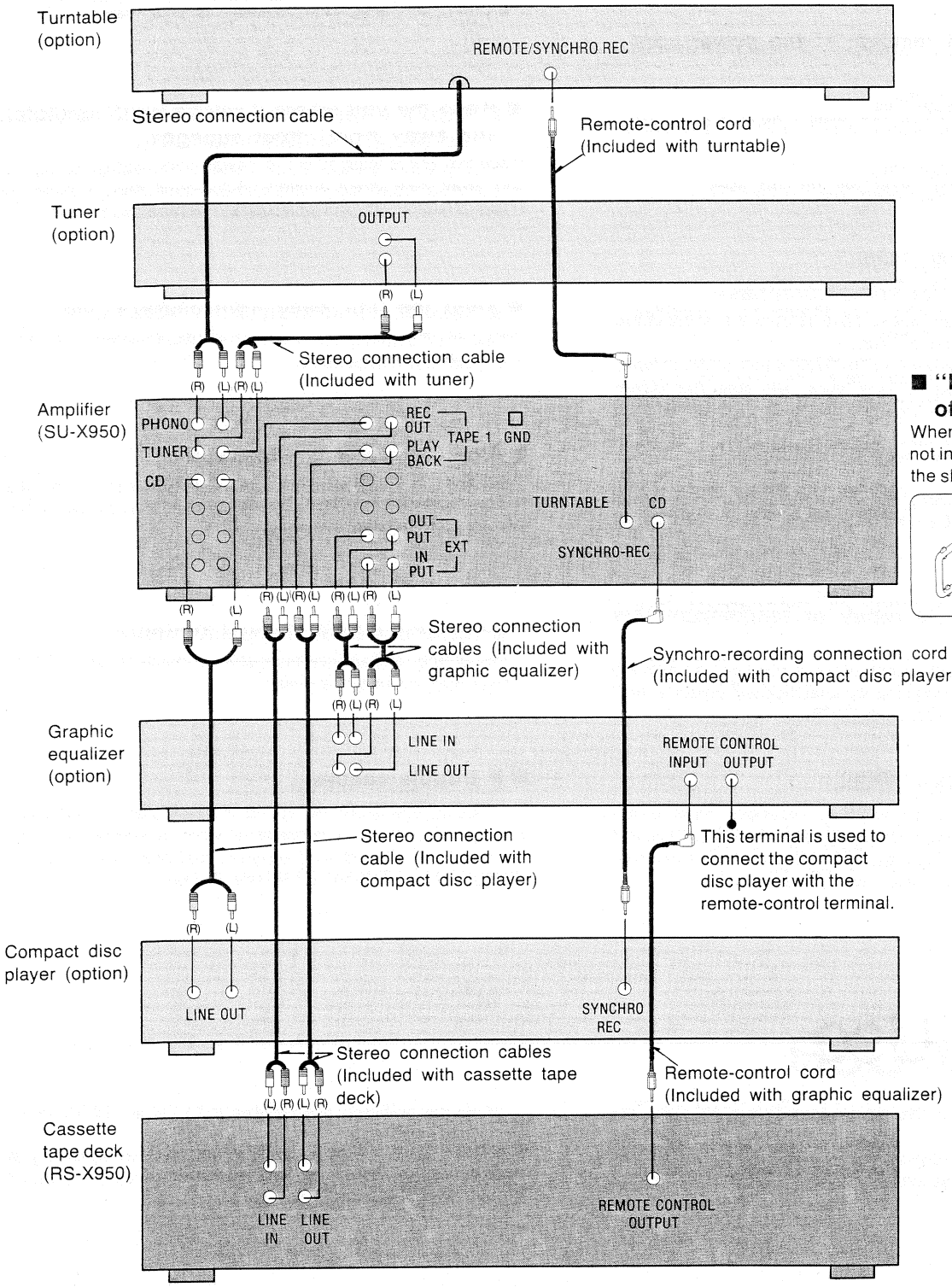
Be sure to disconnect the mains cord before adjusting the voltage selector.
Use a minus (−) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used.

(If the power supply in your area is 117 V or 120 V, set to the "127 V" position.)
Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries; the correct voltage is already set.)

Connections

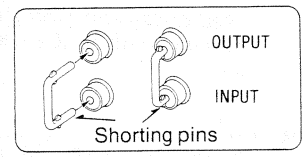
1. Make the connections of the stereo connection cables, the synchro-recording connection cord (option), and the remote-control cords (option).

1. Although the synchro-recording connection cord and the remote-control cords are differentiated in the figure below, actually they are the same shape.
2. For a turntable with a ground terminal, be sure to connect wire to the "GND" terminal of the amplifier.



■ "EXT" terminals of the amplifier

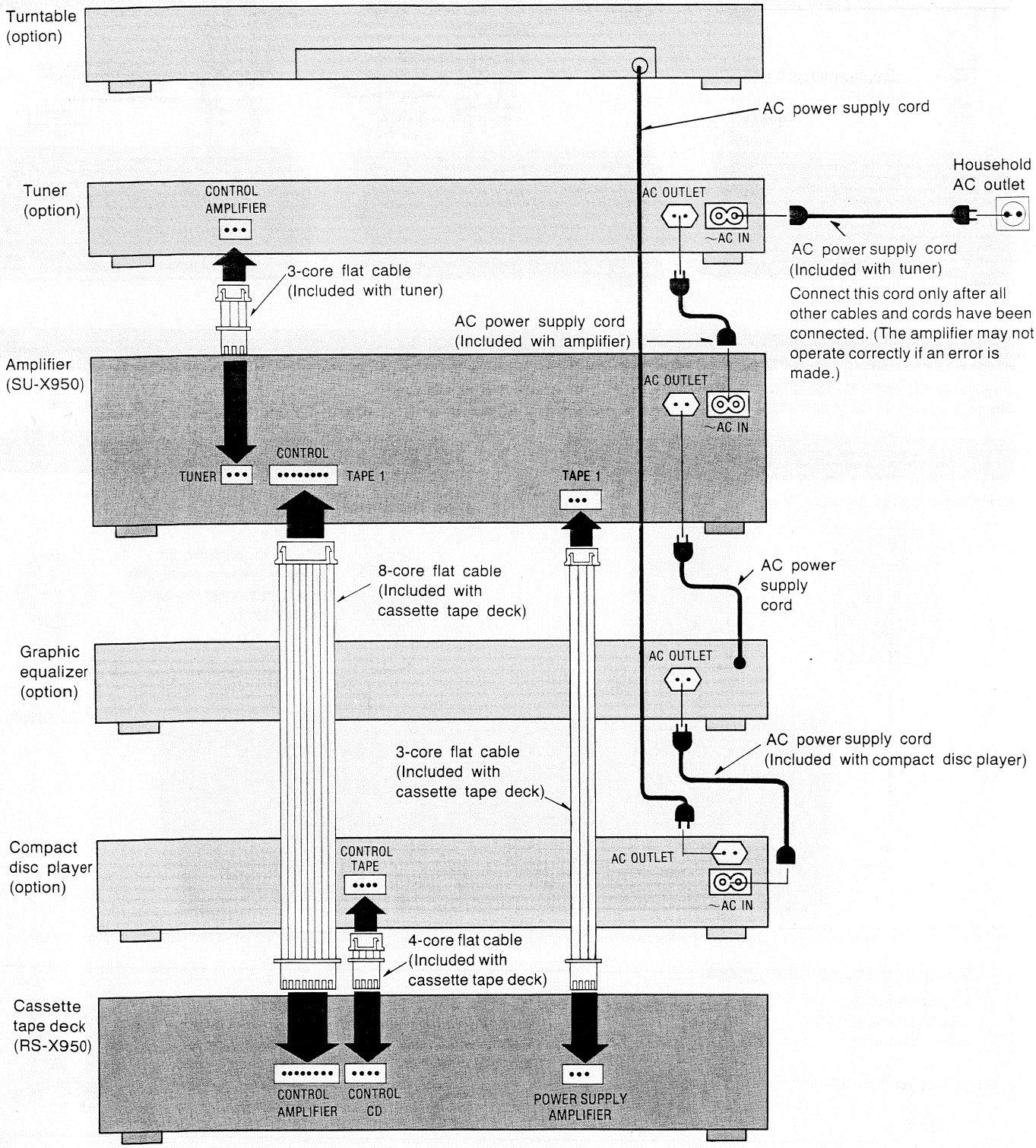
When these terminals are not in use, be sure to insert the shorting pins (included).



2. Make the connections of the flat cables and the AC power supply cords.

1. Do not connect video-related equipment (such as a TV, etc.) to the AC outlets of these components. (These outlets are especially for audio equipment.) Also do not exceed the indicated power ratings when connecting to these outlets.
2. If the graphic equalizer is not used in combination with these components, connect the AC power supply cord of the compact disc player to the AC outlet of the amplifier. If the compact disc player is not used in combination with these components, connect the AC power supply cord of the turntable to the AC outlet of the graphic equalizer.

Note: The configuration of the AC outlet and AC power supply cord differs according to area.



ENGLISH

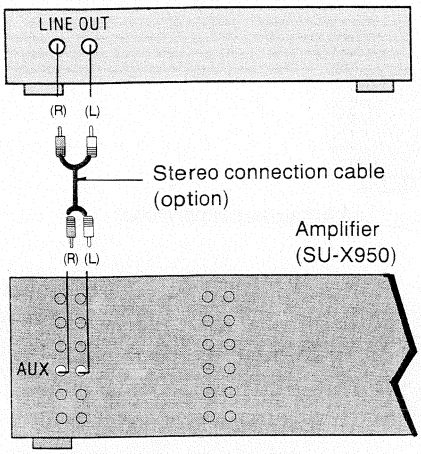
Connections (continued)

Connections to other equipment

"AUX" terminals

Connect a second compact disc player, etc.

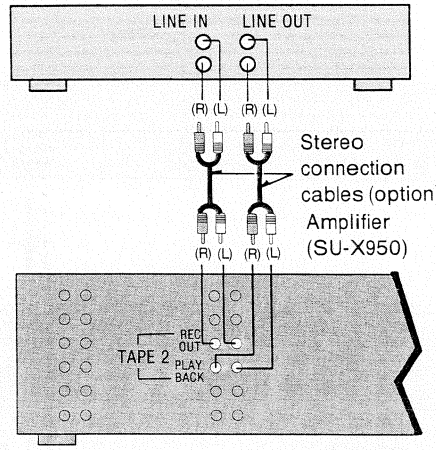
Second compact disc player (option)



"TAPE 2" terminals

Connect a video cassette recorder (for audio only) or a second audio tape deck.

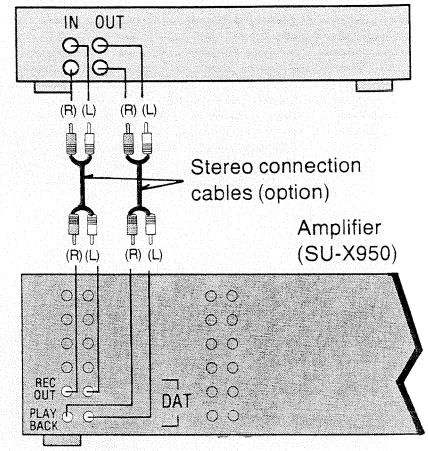
Second tape deck (option)



"DAT" terminals

Connect a digital audio tape deck (DAT).

Digital audio tape deck (DAT) (option)



Connection of speaker systems

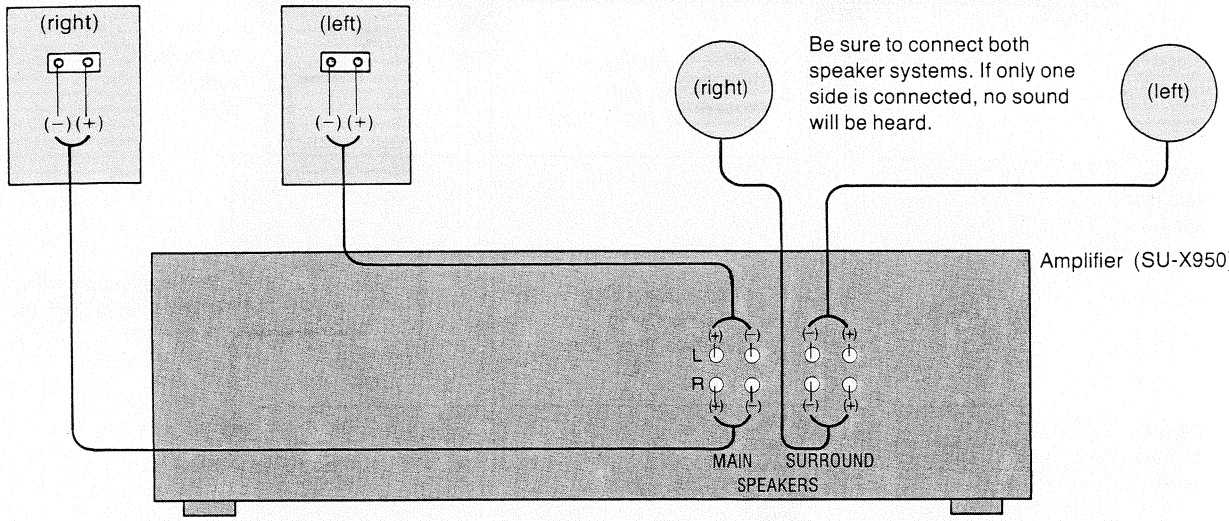
Two pairs of speaker systems (MAIN, SURROUND) can be connected to this unit.
Note: Be sure to only connect positive (+) cords to positive (+) terminals, and negative (−) cords to negative (−) terminals.

Main speaker systems (option)

Load impedance: 8~16Ω

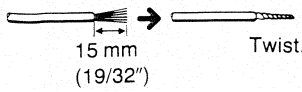
Surround speaker systems (option)

Load impedance: 8~16Ω



Connection of speaker wires

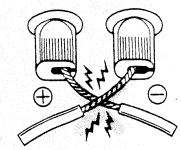
① Strip off the outer covering, and twist the center conductor.



② Turn completely to the left.

③ Insert the wire and turn completely to the right. Pull the wire to assure a proper connection.

Note:
To prevent damage to circuitry, never short plus (+) and minus (−) speaker terminals.



Front Panel Controls and Functions

STEREO INTEGRATED AMPLIFIER SU-X950

Surround-sound switch (SURROUND)

This switch is used to switch the surround sound effect on and off. (The switch itself will be illuminated.)

Audio muting switch/indicator (MUTING)

Press this switch when a disc is being changed or to temporarily reduce the volume level (approx. 1/10).

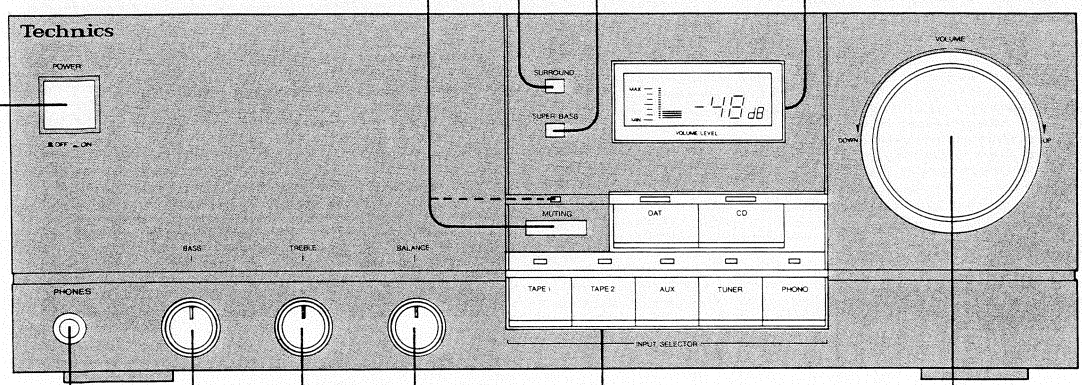
Super bass switch (SUPER BASS)

When this switch is switched ON (the switch itself will be illuminate.), the ultra-low frequency range can be reinforced.

Power switch (POWER)

Volume-level indicator (VOLUME LEVEL)

The volume level is indicated in decibels (dB).
The dB indication numerically shows the attenuation characteristic of the amplifier; the indication ranges from "– –dB" (minimum) to "0 dB" (maximum).
The volume level becomes greater as the indication proceeds from –76 to –74 to –72 dB.



Balance control (BALANCE)

This control is used to adjust left/right volume balance.

Volume control (VOLUME)

This control is used to adjust the volume level.

Tone controls (BASS/TREBLE)

The bass control is for the low-frequency sound range, and the treble control is for the high-frequency sound range.

Input selectors/indicators (INPUT SELECTOR)

These selectors are used to select the sound source to be heard, such as a disc, radio broadcasts, etc. The corresponding indicator illuminates during operation to indicate the selected sound source.

Headphones jack (PHONES)

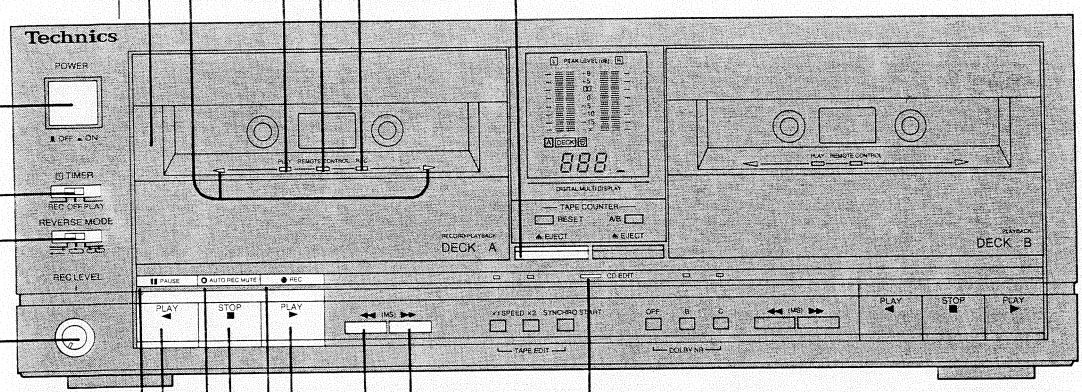
Front Panel Controls and Functions (continued)

STEREO DOUBLE CASSETTE DECK RS-X950

- **Timer stand-by switch (TIMER)**
  This switch is to be used in order to perform a timer recording or timer playback operation.
- **Power switch (POWER)**

When using "DECK A"

- **Cassette holder**
- **Direction indicators**
  ▶: forward side (the cassette side facing outward)
  ◀: reverse side
- **Playback indicator (PLAY)**
- **Remote control indicator (REMOTE CONTROL)**
- **Recording indicator (REC)**
- **Eject button (▲ EJECT)**



- **CD edit-recording indicator (CD EDIT)**
  (Refer to page 17.)
- **Fast-forward/rewind button (MS/▶▶)**
  Press this button for fast forward and rewind, or for tune search during playback.
- **Rewind/fast forward button (MS/◀◀)**
  Press this button for fast forward and rewind, or for tune search during playback.
- **Forward-side playback button (PLAY/▶)**
- **Record button (● REC)**
- **Stop button (STOP/■)**
- **Record-muting button (AUTO REC MUTE)**
- **Reverse-side playback button (PLAY/◀)**
- **Pause button (❚❚ PAUSE)**

- **Recording level control (REC LEVEL)**
  Used to adjust the recording level.
- **Reverse mode selector (REVERSE MODE)**
  (Refer to pages 12 and 15.)

Level meters (PEAK LEVEL)
During recording, these meters indicate the recording level. The level is adjusted by using the recording level control. During playback, they indicate the level of the recorded sound.

Deck A/B tape counter indicators (A DECK B)

Tape counter
This indicates the amount of tape travel.

Deck A/B tape counter display-selector (A/B)
This button can be used to select the tape counter display for either "DECK A" or "DECK B".

Tape counter reset button (RESET)

When using "DECK B"

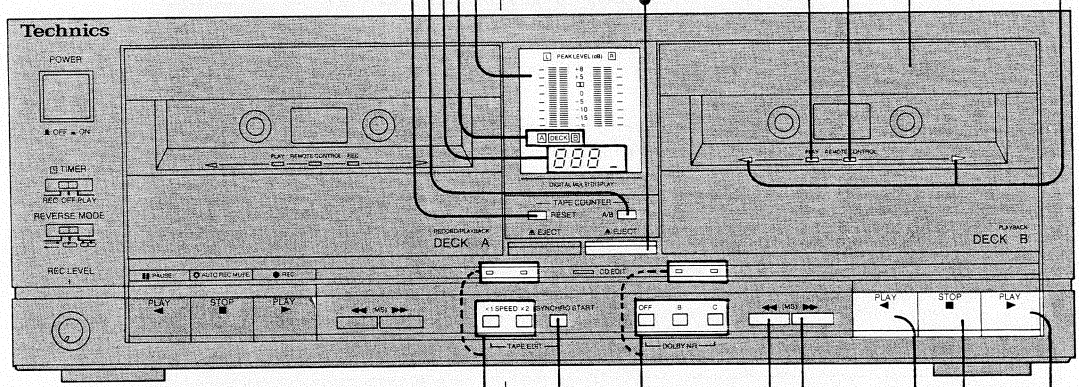
Direction indicators

Remote control indicator (REMOTE CONTROL)

Playback indicator (PLAY)

Cassette holder

Eject button (▲ EJECT)



Editing tape-speed selectors/indicators (SPEED)
Press to select the tape speed for edit-recording. (Refer to page 16.)

Synchro-start button (SYNCHRO START)
(Refer to page 16.)

Dolby noise-reduction switches/indicators (DOLBY NR)
(Refer to page 13.)

Rewind/Fast-forward button (MS/◀◀)

Fast-forward/rewind button (MS/▶▶)

Reverse side playback button (PLAY/◀)

Stop button (STOP/■)

Forward-side playback button (PLAY/▶)

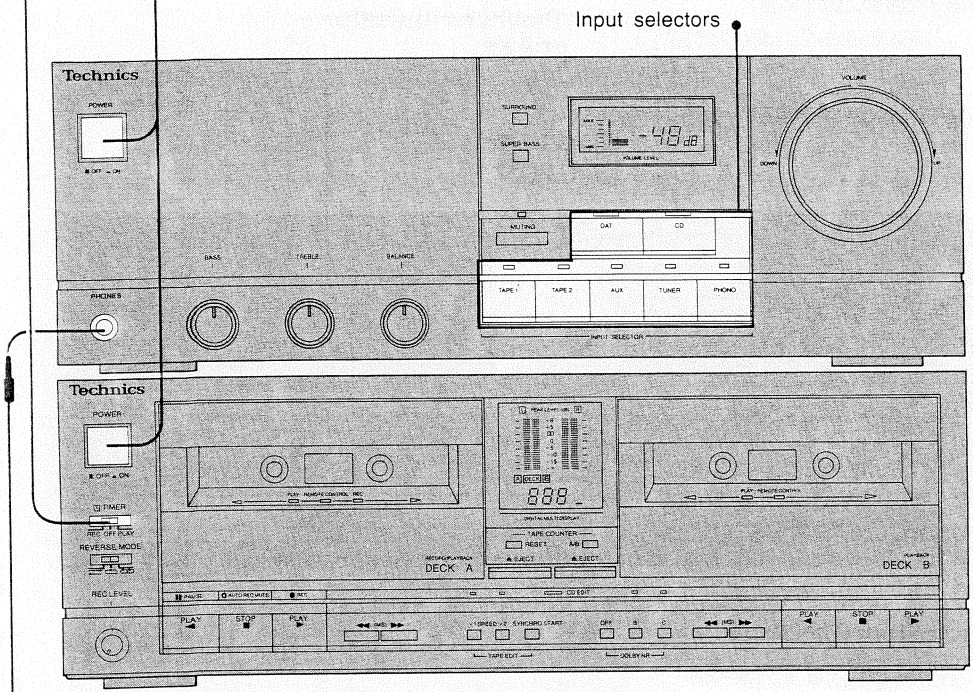
Standard Operating Procedures

Before listening to a disc, radio broadcast, etc. (steps 1~2)

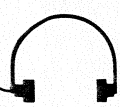
1 "OFF"

2 "ON" (■ → ▬)

Switch ON the power of the tuner when the AC power supply cord of the amplifier is connected to the AC outlet of the tuner.



When listening through headphones



Headphones (option)

Sound from the speakers will not be heard when headphones are connected to this jack.

Note:

Set the volume control of the amplifier to the low position before connecting headphones.

To switch the power of the entire system ON and OFF:

Use the power switch of the amplifier.

(The power for the cassette deck is supplied from the amplifier.)

After listening is finished, power switches of all equipment should be switched "OFF". In the OFF position, the switch does not separate the unit from mains.

To enjoy the various sound sources

- The sound source can be selected by using the input selectors on the amplifier.
- The sound source can also be selected by using the following buttons on the components (direct operation).
  This is the method explained elsewhere in the text of this manual.

■ Listening to tapes

Press the playback button of the cassette tape deck.

■ Listening to phono discs

Press the start/stop button of the turntable.

(This method of operation can only be used for a Technics turntable that has a "REMOTE/SYNCHRO REC" terminal.)

■ Listening to radio broadcasts

Press the preset-tuning button.

(This method of operation can only be used for a Technics tuner that has a "CONTROL" terminal.)

■ Listening to compact discs

Press the play button of the compact disc player.

(Note that this is operable only with a Technics compact disc player with a "REMOTE" terminal and/or a "SYNCHRO REC" recording terminal.)

Note:

The amplifier's input selector indicator for the selected source will illuminate.

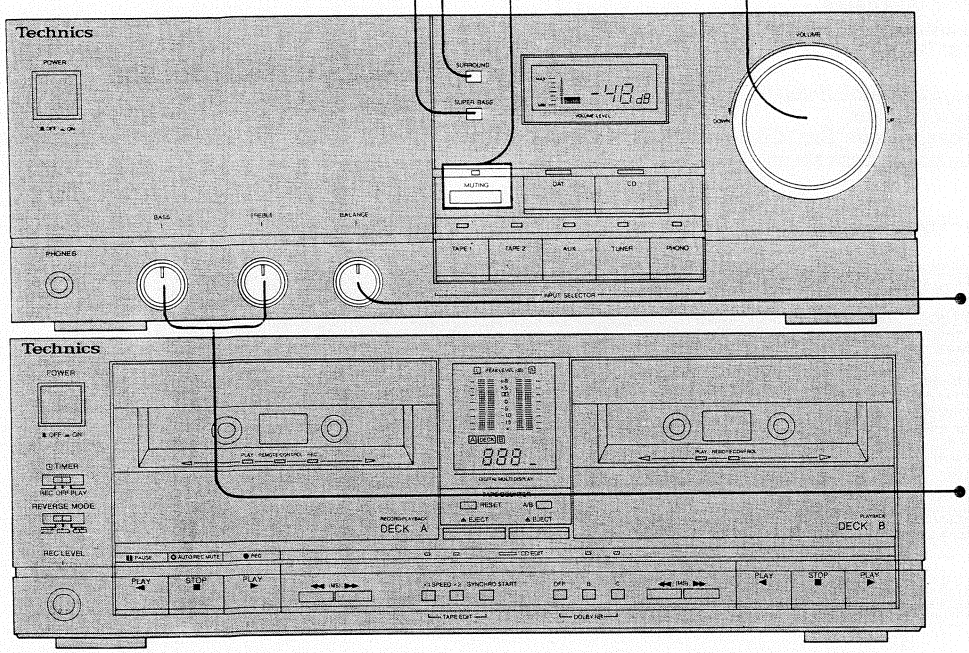
After disc play or radio broadcast, etc. has started

Press this button to activate the surround sound effect.
(The switch itself will be illuminated.)

Press this button if the ultra-low frequencies seem strong.
(The illumination of the switch will be extinguished.)

Press this button to temporarily reduce the volume level.
(The indicator will illuminate.)
This is convenient to use if a visitor comes or the telephone rings.
To return to the original level, press once again.

Adjust the volume level.



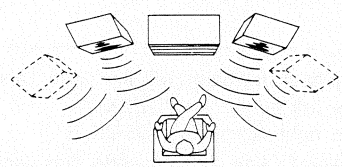
Adjust the balance for left/ right volume.
While listening to an AM broadcast or a monaural FM broadcast, balance the sound so that it will be heard from the center in between the speakers.

Adjust tone quality as desired.
Low-range sound is adjusted with the bass control ("BASS"), and high-range sound with the treble control ("TREBLE").

■ Surround sound effect

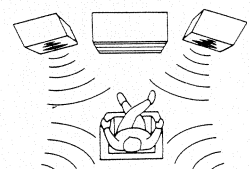
Note:
When listening to a sound source recorded by the surround-sound method, press this button so that the illumination goes out. (However, surround sound effect is not recorded on the DAT.)
The surround-sound effect is only effective for discs, compact discs tapes, etc. that are recorded in stereo, and for FM and other broadcasts that are broadcast in stereo.
It has no effect for monaural AM, or for the any other monaural source.

The effect by using this system



An effect similar to having an additional speaker at each side

The effect by using surround-sound speaker system



An effect similar to the dynamic sound of a concert hall

After use

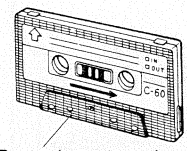
Use the amplifier's volume control to reduce the volume level, and switch off the power of each unit.

Listening to Tapes

Have you completed the "Standard Operating Procedures" (page 10)?

1 Press, then insert a tape cassette.

Use the left button for "DECK A".
Use the right button for "DECK B".



Part where tape is exposed facing downward.

3 Select the desired reverse mode.

⟶ ⟵ : **one-way playback:**
Only one side of the tape on "DECK A" or "DECK B" is played; when the playback finishes, the tape will stop automatically.

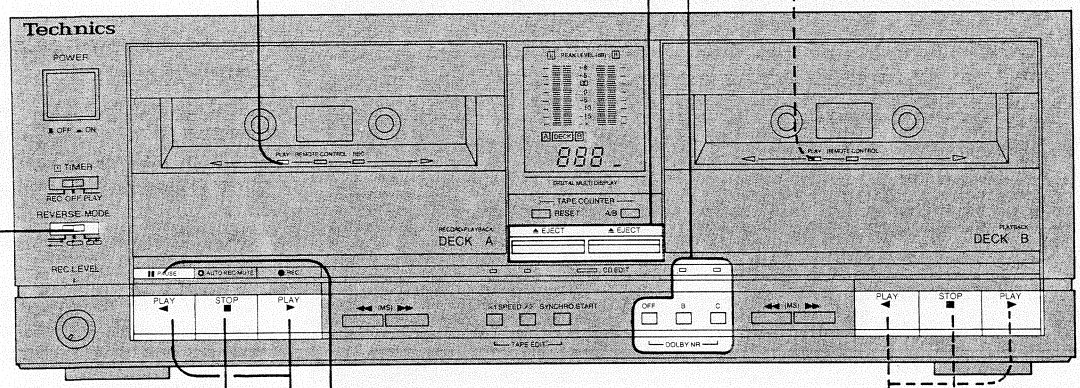
⟲ : **continuous playback:**
Both sides of the tape on "DECK A" or "DECK B" are played; the tape play will continue eight "times" until the stop button is pressed.
- One "time" is when the playback of the reverse side of the tape finishes.

⟲⟲ : **series playback:**
Both sides of the tapes on both tape decks (beginning with "DECK A") are played; the tape play will continue eight "times" until the stop button is pressed.
- One "time" is when the playback of the reverse side of the tape on "DECK B" finishes; therefore, when playback begins from "DECK B", the tape on "DECK A" repeats playback seven times.

2 Select the Dolby noise-reduction system. (Refer to page 13.)

Playback indicator

Playback indicator



Press to stop the tape.

Press to temporarily stop the tape.
(Only "DECK A" operates.)
(The playback indicator will flash.)
Press the playback button to resume the play.

Press to stop the tape.

4 Press.

The playback indicator will illuminate, and playback will begin.
Use the left button for "DECK A".
Use the right button for "DECK B".
▶: "forward" side (the cassette side facing outward)
◀: "reverse" side

5 Adjust the volume level and the desired tone quality.
(Refer to page 11.)

Notes:
1. "DECK A" and "DECK B" cannot both be used for playback at the same time.
2. While "DECK A" is being used to make a recording, "DECK B" can be used only for fast-forwarding or rewinding a tape.
3. When "DECK A" is used for playback or recording while "DECK B" is being used for playback or automatic tune search, "DECK B" will stop (except for edit-recording mode).
4. Do not press the eject button while the tape is moving; doing so might cause a malfunction or damage the tape.
5. If noise is heard while listening to a tape, switch OFF the power of the compact disc player, etc.

To locate and play a certain tune

■ To find a tune's beginning ("music select" function)

Do so during playback.
After the tune's beginning is located, the tune will begin playing.
The playback indicator will flash rapidly while the tune's beginning is being located.

During playback of "forward" side of tape

For tune now playing
(for previous tune if pressed again)

Next tune

During playback of "reverse" side of tape

Next tune

For tune now playing
(for previous tune if pressed again)

To locate a tune that has already played, first locate the beginning of the tune now playing, and then repeat that procedure until the desired tune is found.

Notes:

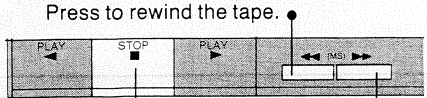
1. There can be no switchover from "DECK A" to "DECK B", or from "DECK B" to "DECK A", while you are searching for the beginning of a tune.
2. Depending on the tape being used, it may not be possible to fast-forward the first tune and find the next tunes beginning. If this is the case, the music select function will not operate and playback should be done in the usual way.
3. Check to be sure that the editing tape speed indicator illumination stops.
   If it illuminates, the tape will stop after the beginning of the tune is located.
4. The following describes those instances in which the tape that is fast-forwarded or rewound does not stop at the beginning, or stops in the middle, of a song:
   - When the music is very soft, e.g., classical music which is mainly pianissimo
   - When there is sustained silence of 4 seconds or more within the recording (e.g., of a conversation or a lecture)
   - When the interval between songs is very short or contains audible noise
   - Tapes recorded by using fade-in or fade-out techniques.
5. Music select system manufactured under license of Starr S.A., Bruxelles, Belgium.

■ To fast forward or rewind the tape ...

First stop the tape.

During playback of "forward" side of tape

Press to rewind the tape.

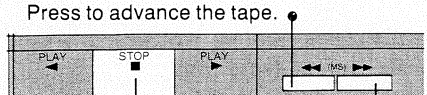


Press to stop the tape.

Press to advance the tape.

During playback of "reverse" side of tape

Press to advance the tape.



Press to stop the tape.

Press to rewind the tape.

Automatic tape selector system

This unit automatically detects the type of tape being used, and adjusts for the proper bias and equalization.

Dolby noise-reduction system

The Dolby-noise reduction system boosts low level high frequency signals during recording. During playback, these high frequency signals are reduced by a corresponding amount and, therefore, noise is reduced.
This unit includes two types of Dolby noise-reduction systems, the Dolby B type and C type.

■ Dolby NR B type

Noise is reduced to about one-third.
Use this system when playing back tapes recorded by the Dolby noise-reduction system, such as prerecorded music tapes, etc.

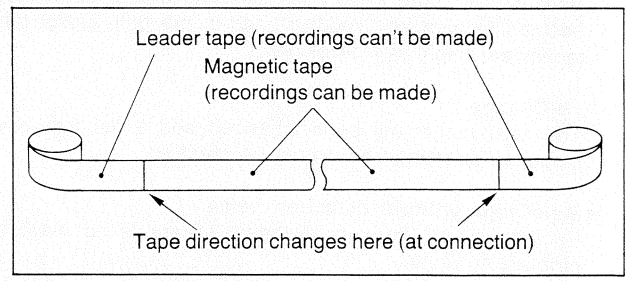
■ Dolby NR C type

Hiss noise is reduced to about one-tenth.
Use this system for the recording and playback of sound sources that have a wide dynamic range and good tone quality, such as FM broadcasts of live performances, etc., and for playing back such tapes.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

Reversing

This unit employs the quick-reverse system.
When the place where the magnetic tape and the leader tape are joined is detected, there is an automatic change (about one second later) of the tape movement to the opposite direction for playback (or recording).



The quick-reverse feature cannot be used during the (approximately) first 15 to 20 seconds of recording or playback. This is to avoid incorrect quick reversing at the leader tape part.
If for any reason there is no change of direction at the place where the leader tape is joined, the direction reversal will occur at the tape's end. (This is "end reversal".)

The quick-reverse feature might not function as expected in the following instances.

- If a tape does not have a leader tape.
- If a strong light (direct sunlight, a spotlight, etc.) is shining into the cassette holder, or when the unit is subjected to a strong impact.
- If there is dust, dirt or other foreign material on the tape surface, or if the tape is wrinkled.
- If the leader tape includes anything or any printing which is non transparent.
- If the magnetic substance on the tape is unusually thin.

Listening to Other Sources

Have you completed the "Standard Operating Procedures" (page 10)?

1 Select the sound source.

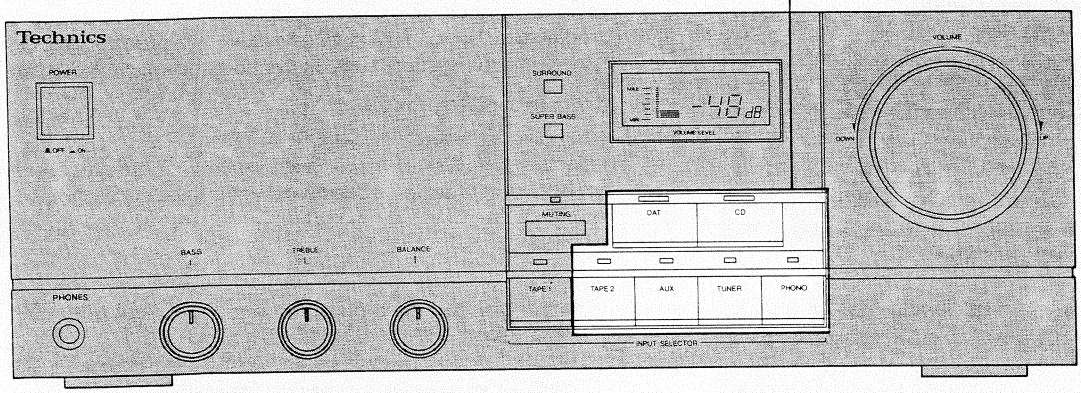
DAT: Press to listen to the digital audio tapes.
CD: Press to listen to compact discs.
TAPE 2: Press to listen to sound from other equipment connected to the "TAPE 2" terminals.
AUX: Press to listen to equipment connected to the "AUX" terminals.
TUNER: Press to listen to radio broadcasts.
PHONO: Press to listen to phono discs.

2 Start the program source to be recorded.

(Refer to the operating instructions for the optional equipment used.)

3 Adjust the volume level and the tone quality as desired.

(Refer to page 11.)



Notes:

- To prevent noise while listening to an FM or AM broadcast, switch OFF the compact disc player and turntable.
- It is recommended that the power to the compact disc player be switched OFF when it is not being used.

About the Cassette Tape

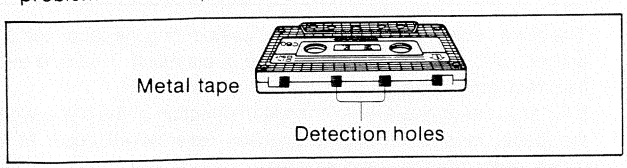
Selection of cassette tapes

Do not use tape such as described below in this unit.

- **120-minute (or longer) tapes**
  Because this tape is very thin, it might stretch during use, become tangled with rotating parts in this unit, and/or tape movement might not be stable.

- **Fe-Cr tape**
  The high range will be emphasized and a flat frequency response characteristic cannot be obtained.

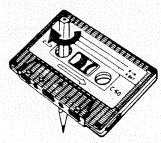
- **Metal tape without detection holes**
  Recordings will be very distorted. (There is no playback problem however.)



Tape slack

This may cause the tape to break.

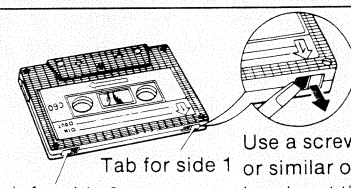
Use a pencil or similar object to take up the slack.



To prevent erasing of recorded sounds

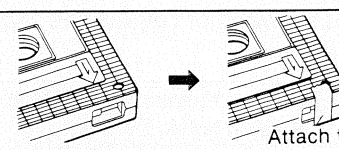
■ Remove the erase-prevention tabs

(thus preventing recording).



■ To record again

Cover the slot with adhesive tape.



Avoid tape storage in the following places

Tape can be damaged if it is stored in places such as described below.

- Where the temperature is high (95°F/35°C or higher) or where the humidity is high (80% or higher).
- Where there is a strong magnetic field (near a speaker, on top of a TV, etc.).
- In direct sunlight.

Recording

Note:
- Only "DECK A" can be used for recording. "DECK B" has no record capability.
- Your attention is drawn to the fact that recording prerecorded tapes or other published or broadcast material may infringe copyright laws.

ENGLISH

Recording an FM broadcast, etc.

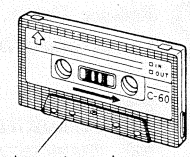
Have you completed the "Standard Operating Procedures" (page 10)?

3 Select the desired reverse mode.

⇀↽: **One-way recording**
When recording on only one side of the tape.

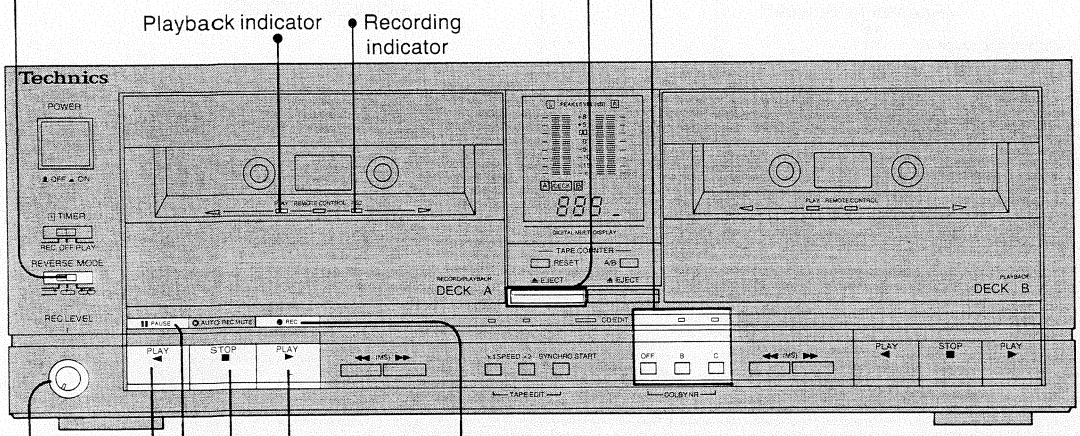
⟲: **Reverse recording:**
When making a reverse recording on both sides of the tape.

1 Press, then insert the tape to be used for recording.



Part where tape is exposed facing downward.

2 Select the Dolby noise-reduction system. (Refer to page 13.)



4 Press.
The recording indicator will illuminate and the playback indicator will flash, and the unit will be in the recording stand-by mode.

Press to stop the recording temporarily.
To start the recording again, press the playback button of "DECK A".

7 Press.
The playback indicator will change from flashing to a steady illumination, and the recording will begin.
▶: "forward" side (the cassette side facing outward)
◀: "reverse" side

Press to stop the recording.

6 Begin the program source to be recorded.
(Refer to page 14.)

5 Adjust the recording level.
The numbers which you should use as a guide for the adjustment of the tape level will differ depending upon the type of tape used.

Normal tape CrO_2 tape	Metal tape
+3 (□□)	+5

Notes:
1. An excessively high recording level will result in a distorted recording; an excessively low recording level will result in a noisy recording.
2. When the recording is to be from a compact disc or a phono disc, note that the recording is started by synchro-recording (See right). Before making the recording, first play the disc and follow step 4. After the adjustment of the recording level is completed, then once again start the disc play.

Synchro-recording

"Synchro-recording" is a convenient feature which can be used to automatically begin tape recording at the moment when a Technics turntable or compact disc player performance begins. Before beginning the recording, be sure to adjust the recording level.

Note:
Synchro recordings cannot be made if the turntable and the compact disc player have no synchro recording function.

■ Synchro-recording from a turntable

When a turntable from which synchro-recordings are possible is connected, the tape recording will begin at the moment when the stylus descends to the disc surface, and will make non-recorded spaces (4 seconds long) between tunes, and the unit will change to the recording stand-by mode when the stylus is lifted from the disc surface.

■ Synchro-recording from a compact disc player

When a compact disc player from which synchro-recordings are possible is connected, the tape recording will begin at the moment the compact disc begins to rotate, and will make non-recorded spaces (4 seconds long) between tunes when the disc stops, and then the unit will change to the recording stand-by mode.

Recording (continued)

Edit-Recording

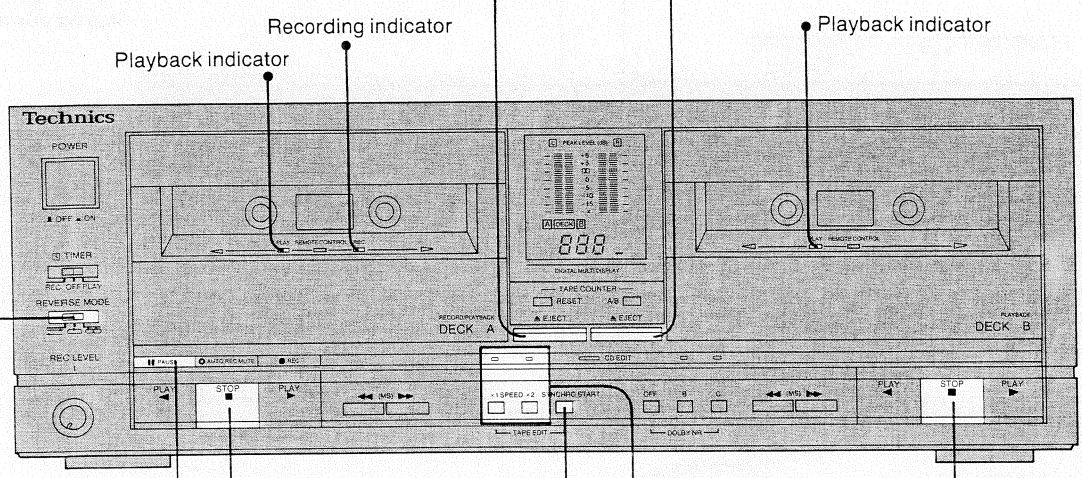
"Edit-recording" is recording from one tape to another while making some changes.

Have you completed the "Standard Operating Procedures" (page 10)?

2 **Press, then insert the tape to be used for recording.**

1 **Press, then insert the tape to be used for playback.**

3 **Select the desired reverse mode.**
(Refer to page 15.)



Press to stop the edit-recording.
"DECK B" will stop simultaneously.

Press to stop the edit-recording.
After about 4 seconds, "DECK A" will automatically change to the recording standby mode. (This will make a non-recorded space between tunes.)

Press to stop the edit-recording temporarily.

- "DECK A" will be set to the recording stand-by mode. "DECK B" will continue playback.
- To begin recording once again, press the playback button on "DECK A".
  Or, press the stop button of "DECK B" and then follow step 5.

4 **Select the tape speed.**

"×1"

For operation at the normal tape speed
(The above indicator will illuminate.)

"×2"

For operation at double speed
(The above indicator will illuminate.)

5 **Press.**
(The playback indicator and recording indicator of "DECK A", and the playback indicator of "DECK B", will illuminate, and the edit-recording will begin.)

Notes:

1. Edit-recordings cannot be made from "DECK A" to "DECK B".
2. Recording level as well as equalizer effects and Dolby noise-reduction effects are recorded on to the tape in "DECK A" exactly as they were originally recorded on the tape in "DECK B".
3. The Dolby noise-reduction systems have no effect during an edit-recording (while the editing tape speed indicator is illuminated). To listen to music recorded by a Dolby noise-reduction system while making an edit-recording, reduce the treble range by using the treble tone control on the amplifier.
4. While an edit-recording is in progress, you can enjoy some other source, or you can monitor the recording being made. Select the desired sound source by using the input selectors on the amplifier, and start the performance.
5. In order to avoid mis-operations later, be sure to switch OFF the editing tape-speed selectors (the editing tape speed indicator illumination stops) after the edit-recording has finished.

To make non-recorded spaces between tunes

With this unit, by following the steps below, it is possible to make non-recorded spaces (4 seconds long) between tunes.
- To avoid recording unwanted commercial announcements, disc jockey patter, etc.
- To make the unrecorded space that's needed between tunes for correct operation of the "music select" function.

■ During the recording, press the record muting button one time.

This unit will make non-recorded spaces (4 seconds long) between tunes, and then will change to the recording stand-by mode.

■ To make a non-recorded space of more than 4 seconds on the tape

Press the record muting button for the necessary number of seconds.
The unit will change to the recording stand-by mode when the button is released.

■ To start the recording again

Press the playback button of "DECK A".

To erase recorded sounds

1. **Insert the recorded tape cassette into the cassette holder of "DECK A".**
2. **Press the "OFF" button of the Dolby noise reduction switch.**
3. **Set the recording level control to the minimum ("0") position.**
4. **Press the record button, and then let the tape run.**

Note that any sounds on the tape will be automatically erased if a new recording is made on that part of the tape.

CD edit-recording function

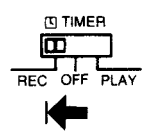
When this unit is used in combination with the Technics compact-disc player (option), each track on compact discs can, depending on the length of the tape used for recording, be recorded without interruptions during tracks.
Note that this function is only used combination with the Technics compact disc player which has the CD-editing function. (Refer to the operating instructions of the compact disc player.)

Timer Recording/Playback

If an audio timer (option) is connected to the tuner, recording of a radio broadcast, or tape playback, will automatically begin at the preset time.
Connect the AC power cord of the tuner to the power source outlet of the timer.
(See the operating instructions of the timer for detailed information.)

Timer recording

1. **Prepare for recording.**
   (Follow steps 1 through 6 of "Recording" on page 15. After adjusting the recording level, press the stop button.)
2. **Set the timer to the desired recording-start time.**
   (Power will be off.)
3. **Set the timer stand-by switch to the "REC" position.**
   (At the set time, the power will be switched on and the broadcast will be recorded.)



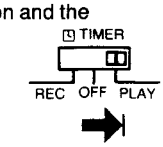
After setting the timer

Make sure that the power switches of the tuner, tape deck, and the amplifier are set to the "ON" position, and the input selector of the amplifier is set to the "TUNER" position.

Note:
If the tuner which has the timer function is used, switch OFF the tuner.

Timer playback

1. **Rewind the tape to the position from which you want playback to begin.**
2. **Set the timer to the desired playback-start time.**
   (Power will be off.)
3. **Set the timer stand-by switch to the "PLAY" position.**
   (At the set time, the power will be switched on and the playback will begin.)



Note:
For timer playback, playback always starts from "DECK A" in the series playback mode, and in the other mode, only "DECK A" can be used.

After setting the timer

Make sure that the power switch is set to the "on" position.

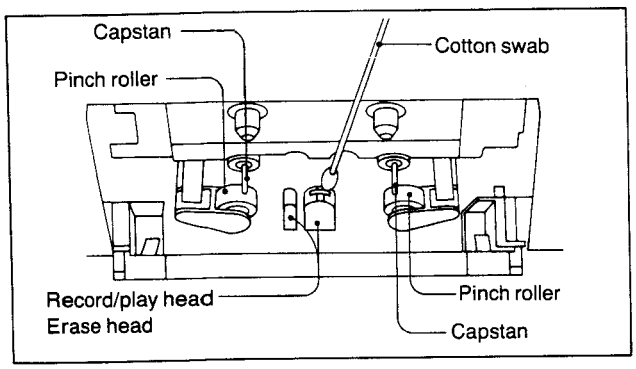
Note:
If the tuner which has the timer function is used, switch OFF the tuner.

Maintenance

Head care

To assure sound quality for recording and playback, be sure to clean the heads after approximately every 10 hours of use.

1) Press the power switch to switch off the electrical power supply of the cassette tape deck.
2) Press the eject button to open the cassette holder.
3) Clean the heads, pinch roller and the capstan shaft with a cotton swab (or with a soft, lint-free cloth) slightly moistened with alcohol.
   Do not use any solution other than alcohol for head cleaning.



Head demagnetization

In order to maintain good sound quality during recording and playback, it is recommended that the head should be demagnetized when distortion or poor sound quality persist after cleaning the heads.
If the head becomes magnetized, it could create noise in the recordings, loss of high-frequency response or erasure of valuable recordings. Several types of head demagnetizers are available and may be purchased separately at local electronics supply stores. Follow the instructions that are supplied with the device.

- Do not bring any type of metal objects or tools such as magnetic screwdrivers in contact with the head assembly.

Maintenance of external surfaces

To clean this unit, use a soft, dry cloth.
If the surfaces are extremely dirty, use a soft cloth, dipped into a soap-and-water solution or a weak detergent solution.
Wring the cloth well before wiping the unit.
Wipe once again with a soft, dry cloth.
Never use alcohol, paint thinner, benzine, nor a chemically treated cloth to clean this unit.
Such chemicals may damage the finish of your unit.

Technical Specifications

Note:
Specifications are subject to change without notice.
Weight and dimensions are approximate.

STEREO INTEGRATED AMPLIFIER SU-X950 (DIN 45 500)

■ AMPLIFIER SECTION

DIN power output
1 kHz THD: 1% 2 × 60W (8Ω)
Total harmonic distortion
rated power at 1 kHz 1% (8Ω)
Harmonic distortion
half power at 1 kHz 0.009% (8Ω)
Residual hum and noise 0.2 mV
Damping factor 30 (8Ω)
Input sensitivity and impedance
PHONO 3 mV/47kΩ
TUNER, AUX, TAPE 1, TAPE 2 150 mV/22kΩ
CD, DAT 200 mV/22kΩ
Maximum input voltage (1 kHz, RMS)
PHONO 100 mV
S/N (rated power 8Ω)
PHONO 75 dB (IHF, A, 79 dB)
TUNER, CD, AUX, TAPE 1, TAPE 2 82 dB (IHF, A: 83 dB)
Frequency response
PHONO RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, CD, AUX, TAPE 1, TAPE 2, DAT 15 Hz~55 kHz (−3 dB)
Tone controls
BASS 50 Hz, +10 dB~−10 dB
TREBLE 20 kHz, +10 dB~−10 dB
Muting −20 dB
Super bass 70 Hz, +10 dB
Output voltage
TAPE 1, TAPE 2, REC OUT 150 mV
Channel balance, AUX 250 Hz~6,300 Hz ±1.0 dB
Channel separation, AUX 1 kHz 60 dB
Headphones output level and impedance 520 mV/330Ω
Load impedance
MAIN 8Ω~16Ω
SURROUND 8Ω~16Ω

■ GENERAL

Power consumption 290W
Power supply
For continental Europe AC 50/60 Hz, 220V
For others AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W×H×D) 360 × 128 × 300 mm (14-3/16" × 5-1/32" × 11-13/16")
Weight 6.6 kg (14.5 lb.)

Note:
Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

STEREO DOUBLE CASSETTE DECK RS-X950

■ CASSETTE DECK SECTION

Deck system Stereo cassette deck
Track system 4-track, 2-channel
Heads
(DECK A) REC/PLAY Solid Permaloy head
Erasing Double-gap ferrite head
(DECK B) PLAY Solid Permaloy head
Motors
(DECK A) Capstan/reel table drive
2 speed electronically controlled DC motor
(DECK B) Capstan/reel table drive
2 speed electronically controlled DC motor
Recording system AC bias
Bias frequency 80 kHz
Erasing system AC erase
Tape speed 4.8 cm/sec. (1-7/8 ips)
Frequency response (w/o Dolby N.R.)
METAL 30 Hz~18 kHz
40 Hz~17 kHz (DIN)
CrO_2 30 Hz~17 kHz
40 Hz~16 kHz (DIN)
NORMAL 30 Hz~16 kHz
40 Hz~15 kHz (DIN)
S/N (signal level = max recording level, CrO_2 type tape)
Dolby C NR on 74 dB (CCIR)
Dolby B NR on 66 dB (CCIR)
NR off 56 dB (A weighted)
Wow and flutter 0.08% (WRMS) ±0.2% (DIN)
Fast Forward and Rewind Time
Approx. 110 seconds with C-60 cassette tape
Input sensitivity and impedance
LINE 85 mV/70 kΩ
Output voltage and impedance
LINE 400 mV/1.5 kΩ

■ GENERAL

Power consumption 20W
Dimensions (W×H×D) 360 × 128 × 285 mm (14-3/16" × 5-1/32" × 11-7/32")
Weight 4.4 kg (9.7 lb.)

Troubleshooting Guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.
If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized service centers (enclosed with this unit) to locate a convenient service center, or consult your Technics dealer for instructions.

Problem	Probable cause(s)	Suggested remedy
While using the tape deck		
Tape moves but no sound is heard.	The volume control of the amplifier is set to its minimum position.	• Adjust the volume control to the desired level.
	The input selector of the amplifier is not set to the "TAPE 1" position.	• Set it to the "TAPE 1" position.
Distorted sound	The recording level is too high.	• Select the appropriate recording level.
Poor sound quality (especially in the high treble and low bass ranges)	The proper Dolby noise-reduction switch is not selected.	• Select the correct switch.
Sound is low, poor tone, intermittent sound, noise.	Heads, capstan and/or pinch roller are dirty or the tape is damaged.	• Clean the heads, capstan and/or pinch roller, or try a new cassette tape.
Recording is not possible.	The recording level control of the cassette tape deck is at the "0" position.	• Select the appropriate recording level.
	Erase-prevention tabs have been removed.	• Attach tape to cover space left by removal of erase-prevention tabs.
Problems noted at all times		
No sound is heard when the power is switched ON.	The incorrect input selector of the amplifier has been pressed.	• Check to be sure that the correct selector is pressed.
When listening to stereo sound, the sound lacks depth (i.e. thin bass, thinny sound).	Out of the speaker is connected out of phase [(+)→(−), (−)→(+)].	• Reconnect the speakers maintaining proper polarity [i.e., (+)→(+), (−)→(−)].
When listening to stereo sound, the left and right sounds are reversed.	The left and right connections of the connection cables connected to other equipment are reversed.	• Check to be sure the connection cables to other equipment and connect them correctly if necessary.
A low-pitched noise ("hum" or "buzz") is heard.	The power cord or a fluorescent light, etc., is near the connection wires.	• Try separating the amplifier from the electric appliance as far as possible. • Reverse the connection of the power cord plug.
Sound is not heard from one of the speaker.	The speaker wires are disconnected.	• Check and correct the connections of the speaker wires.
	The balance control is not set to the center position.	• Adjust the level by the balance controls.
Sound stops during a performance, or no sound is heard when the power is switched ON.	The protection circuitry has functioned because the positive and negative speaker connection wires are "shorted" or speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.	• Switch off the power, and, after determining and correcting the cause, switch on the power once again.
	The impedance of the speaker system being used is less than the rating of the amplifier.	• Switch off the power and then on again, and listen at a low volume level, or use a speaker system of the proper impedance rating.